

## INTERNATIONAL SEARCH REPORT

Int. Application No  
PCT/JP2004/004920

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 D01F9/127 C01B31/02 C01B3/26 B01J8/02 B01J8/12  
B01J8/28 B01J8/00 B01J19/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 D01F C01B B01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No.  |
|------------|--|------------------------|
| X          | WO 03/066521 A (CARBON NANOTECH RESEARCH INSTITUTE INC; NISHIMURA, KUNIO; MAENO, HIROM) 14 August 2003 (2003-08-14)<br>abstract; figure 1<br>-& DATABASE WPI<br>Section Ch, Week 200425<br>Derwent Publications Ltd., London, GB;<br>Class E36, AN 2003-679523<br>XP002319311<br>& AU 2002 233 631 A1 (CARBON NANOTECH RES INST INC) 2 September 2003 (2003-09-02)<br>abstract | 1-3,7-30               |
| X          | DE 199 54 225 A1 (KANZOW, HENNING)<br>23 May 2001 (2001-05-23)<br><br>column 5, line 13 - line 37; figure 1<br>column 3, line 50 - column 4, line 51<br><br>-----<br>-/-   | 1,3,<br>5-20,<br>25-30 |

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the international search

28 February 2005

Date of mailing of the international search report

24.05.05

Name and mailing address of the ISA

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F 01, GB2004/004920

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
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| X          | EP 1 277 858 A (NIKKISO COMPANY LIMITED)<br>22 January 2003 (2003-01-22)<br>paragraph [0033] - paragraph [0062];<br>figures<br>-----  | 1,3-20,<br>25-30      |
| X          | WO 02/092506 A (CAMBRIDGE UNIVERSITY<br>TECHNICAL SERVICES LIMITED; SHAFFER, MILO)<br>21 November 2002 (2002-11-21)<br>page 3, line 18 - page 4, line 21; example<br>1<br>page 9, line 15 - line 28<br>page 10, line 19 - line 26<br>-----      | 1,3-20,<br>25-30      |
| X          | M.S. DRESSELHAUS ET AL: "GRAPHITE FIBERS<br>AND FILAMENTS"<br>1988, SPRINGER-VERLAG, BERLIN-HEIDELBERG<br>, XP002319310<br>page 28, line 17 - page 29, line 12;<br>figure 2.15a<br>-----  | 1-3,5-30              |
| A          | PATENT ABSTRACTS OF JAPAN<br>vol. 2003, no. 09,<br>3 September 2003 (2003-09-03)<br>-& JP 2003 146633 A (NATIONAL INSTITUTE OF<br>ADVANCED INDUSTRIAL & TECHNOLOGY; SHOWA<br>DENKO KK), 21 May 2003 (2003-05-21)<br>abstract; figure 1<br>----- | 1-30                  |
| A          | US 2003/190277 A1 (MOY DAVID ET AL)<br>9 October 2003 (2003-10-09)<br>the whole document<br>-----   | 1-30                  |
| A          | US 2003/129122 A1 (CHEN PING ET AL)<br>10 July 2003 (2003-07-10)<br>paragraphs [0033] - [0035]; figure 1<br>-----   | 1-30                  |

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International application No.  
PCT/GB2004/004920

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1 - 30

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-30

Method and reactor capable of producing particulate carbon material using a fluidized catalyst.  
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2. claims: 31-36

Reactor with a plurality of reaction surfaces.  
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3. claims: 37-43

Reactor with a plurality of gas inlet ports disposed so as to introduce inlet gas directly into the reaction bed.  
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 Int. Application No  
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| Patent document<br>cited in search report |    | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
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